

BOOK REVIEWS

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Classification, Cladistics, and Natural History of Native North American *Harpalus* Latreille (Insecta: Coleoptera: Carabidae: Harpalini), excluding subgenera *Glanodes* and *Pseudophonus*.—Gerald R. Noonan. 1991. Thomas Say Foundation, Vol. 13. Entomological Society of America, 310 pp.

This revision is part of a revived Thomas Say monograph series intended for publication of taxonomic works by members of the Entomological Society of America. The book includes identification keys, descriptions and synonymies, a cladistic analysis, and a summary of phenology and habitat occurrence for 39 species of the genus *Harpalus* occurring in North America north of Mexico. *Harpalus* beetles live in drier habitats, such as grasslands, or open woodlands and forest clearings. Some species are geographically widespread, and exhibit variation in pubescence or color that has led to the extensive description of invalid species names. Examination of over 35,000 specimens permitted reassessment of species limits, description of two new species, and new synonymy of 49 invalid names, almost all described by Thomas Lincoln Casey. When it comes to revising groups previously touched by Col. Casey, the biodiversity crisis must be viewed with more than a few grains of salt.

The cladistic analysis was limited to the 39 northern North American species, with 44 palearctic species used as a taxonomic outgroup. This permitted character polarization and an assessment of phylogenetic relationships for 21 of the 39 native species from within the North American fauna. The other 18 taxa are probably more closely related to Old World taxa than to New World species.

This work exemplifies some major problems still to be worked out of the publication process by the Thomas Say series editors. Firstly, whereas the author included the results of fundamental taxonomic research in this volume, he removed a more substantive presentation of biogeographic research to a separate paper (Noonan, G. R., 1990, *J. Biogeogr.* 17:583-614). This leaves little of interest to non-carabidologists in this particular volume. E.S.A. authors should be encouraged to submit their best work to this series. Secondly, the publication is noteworthy for its marginal production values. Pages are small and the typeface large, requiring numerous page changes to use the identification keys. Figures are grouped at the back of the volume, are not consistently sized, nor arranged to fill the page. Tables are crudely composed and clumsily inserted into the text pages. Paper quality and type definition is marginal and poor respectively. If this is the face the Entomological Society wishes to put on its systematic publication series, they may find themselves hard pressed to attract future contributions. Or perhaps they wish to telegraph the message that for no page charges you will get poor production?

In summary, this revision establishes a sound taxonomy for the defined species of *Harpalus*, a necessary step before more substantive, and hopefully holarctically defined, cladistic and biogeographic studies are conducted. Unless you are a carabid ecologist or collector, you will not find much need for this book. You might best write the author and request a reprint of his biogeographic paper, and save your

money for subscription to a quality journal, such as this one.—James K. Liebherr, Department of Entomology, Comstock Hall, Cornell University, Ithaca, New York 14853-0999.

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Systematics and Ecology of the Subgenus *Ixodiopsis* (Acari: Ixodidae: *Ixodes*).—Richard G. Robbins and James E. Keirans. 1992. Entomological Society of America, Lanham, Maryland. Thomas Say Foundation, volume 14, viii + 159 pp.

This monograph of a small (seven species) holarctic subgenus of ticks includes a systematic and phylogenetic study, summaries of host records and ecology, and a zoogeographic analysis. These ticks are parasites of small mammals and transmit piroplasms between rodents, although they are not vectors of Lyme Disease. The monograph was developed from the senior author's Ph.D. thesis at George Washington University.

The revisionary study includes no taxonomic changes in the subgenus—there are no new taxa, synonymies, or nomenclatorial changes. The species are fully described in all instars and illustrated with excellent scanning electron micrographs. Especially valuable to North American acarologists are the descriptions of the Old World species and analyses of the Russian literature. Differential diagnoses of the species and range maps are lacking, although very complete data are provided for all 3,851 specimens examined. The authors assume that readers are familiar with the specialized morphological terminology used in tick systematics, and indeed no key is presented to the subgenera of *Ixodes*. Readers should have at hand Clifford et al.'s (1973) subgeneric revision (in which *Ixodiopsis* keys to *Pholeoixodes*) and illustrations of key characters (e.g., Keirans and Clifford, 1978).

The authors claim that this is the first phylogenetic study of a taxon of ticks, although it is roughly contemporaneous with Klompen's (1992) phylogenetic analysis of argasid ticks based on larval characters. Twenty-two morphological characters are analyzed using Hennig86 and a single outgroup taxon, a species in the presumed sister subgenus *Pholeoixodes*. Although no technical information is provided concerning the computer-based analysis, the authors imply that a single most parsimonious cladogram results, with the seven species falling into two species groups.

In describing the subgenus *Ixodiopsis* and contrasting it with *Pholeoixodes*, the authors do not always distinguish plesiomorphous from apomorphic characters. In fact it is not evident that the six characters supporting *Ixodiopsis* are all apomorphies, especially since three undergo reversal within the subgenus. Most North American acarologists have placed *Ixodiopsis* as a synonym of *Pholeoixodes* (Clifford et al., 1973; Keirans and Clifford, 1978). Robbins and Keirans (1987) were the first North Americans to consider it distinct. Recognition of *Ixodiopsis* probably makes *Pholeoixodes* paraphyletic, as the authors knowledge.

A complete host list is provided for all species in the subgenus; most reported hosts are sorcid insectivores and cricetid and arvicolid rodents. The ticks are en-